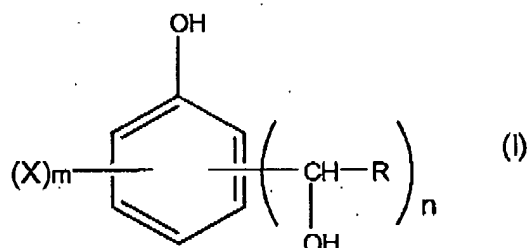


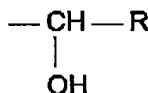
Docket 2000FR302
 Serial No. 09/778,353
 Group 1621

1. (previously presented) New phenolic compounds derived from dialkoxyethanals of formula (I)



in which

- R is a dialkoxymethyl group with from 3 to 17 carbon atoms, a 1,3-dioxolan-2-yl group optionally substituted on peaks 4 and/or 5 by one or more alkyl groups comprising from 1 to 8 carbon atoms or a 1,3-dioxan-2-yl group optionally substituted on peaks 4 and/or 5 and/or 6 by one or more alkyl groups comprising from 1 to 8 carbon atoms,
- n has the value 1, 2 or 3 and the group or groups

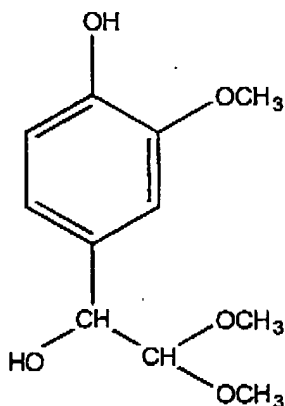


are in ortho and/or in para position of the OH group of the cycle

- m represents from 0 to 4-n and X represents a functional group selected from the group of: hydroxyl; halogen; an alkyl or alkoxy group comprising from 1 to 8 carbon atoms; aryl group comprising from 5 to 12 carbon atoms and optionally 1 or 2 heteroatoms such as nitrogen or oxygen; carboxy; a —CO-Y group in which Y represents an alkyl or alkoxy radical containing from 1 to 8 carbon atoms or amido or amino or thiol radical, on condition that at least one of the ortho or para positions of the phenolic cycle is substituted by a hydrogen, with the

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exception of the compound 1

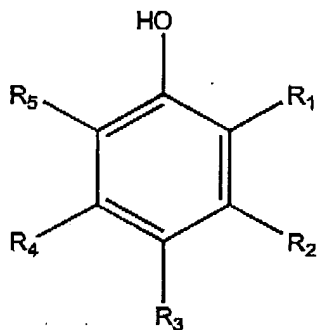


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or their salt with the alkali metal, alkaline-earth metal and amine.

2. (previously presented) Preparation process for phenolic compounds of formula (I) according to claim 1, or their salt with the alkali metal, alkaline-earth metal and amine comprising the steps of:

- reacting a phenol of formula (II)

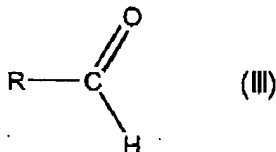


(II)

in which R₁, R₂, R₃, R₄, R₅ are independantly selected from the group consisting of: hydroxyl radical; halogen; an alkyl radical comprising from 1 to 8 carbon atoms; an aryl radical; an alkoxy radical comprising from 1 to 8 carbon atoms; an ester radical comprising from 1 to 8 carbon atoms; an amide radical; an amine radical

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or a thiol radical, on condition that at least one of the ortho or para positions of the phenolic cycle is substituted by a hydrogen;
with an aldehyde of formula (III)



in which R is a dialkoxymethyl group, a 1,3-dioxolan-2-yl group optionally substituted on peaks 4 and/or 5 by one or more alkyl groups or a 1,3-dioxan-2-yl group optionally substituted on peaks 4 and/or 5 and/or 6 by one or more alkyl groups

- in the presence of a base.

3. (previously presented) Process according to claim 2, where 1 mole of phenol of formula (II) is reacted with 0.1 to 10 moles of aldehyde of formula (III) in the presence of 0.1 to 2 moles of base.

4. (previously presented) Process according to claim 3, where 1 mole of phenol of formula (II) is reacted with 0.1 to 5 moles of aldehyde of formula (III) in the presence of 0.1 to 1 mole of base.

5. (previously presented) Process according to claim 2 where said base is a tertiary amine.

6. (previously presented) Process according to claim 5, where said base is tributylamine or triethylamine.

7. (previously presented) Process according to claim 2, where said base is a hydroxide of alkali metal.

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8. (previously presented) Process according to claim 7, where said base is sodium hydroxide or potassium hydroxide.
9. (previously presented)) Process according to claim 2, where said base is a carbonate of alkali metal.
10. (previously presented) Process according to claim 9, where said base is sodium carbonate or potassium carbonate.
11. (previously presented) Process according to claim 2, where the product of formula (III) is dimethoxyacetaldehyde, diethoxyacetaldehyde, dibutoxyacetaldehyde, 2-formyl-1,3-dioxolane or 5,5-dimethyl 2-formyl 1,3-dioxane.
12. (canceled) ~~A synthesis intermediate comprising phenolic compounds of formula (I) or their salt with the alkali metal, alkaline earth metal and amine, according to claim 1.~~
13. (canceled) ~~A process for the preparation of phenolic resins without formaldehyde comprising
—— synthesising a phenolic resin with the phenolic compounds of formula (I) or their salt with the alkali metal, alkaline earth metal and amine, according to claim 1.~~
14. (canceled) ~~A process for the crosslinking of polymers without formaldehyde comprising
—— crosslinking said polymers with the phenolic compounds of formula (I) or their salt with the alkali metal, alkaline earth metal and amine, according to claim 1.~~
15. (currently amended) A process for the crosslinking without formaldehyde of a substrate ~~without formaldehyde~~ comprising the steps of:
providing a substrate;

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providing phenolic compounds of formula (I) or their salt with the alkali metal, alkaline-earth metal and amine, according to claim 1; and

crosslinking said substrate with the said phenolic compounds of formula (I) or their salt with the alkali metal, alkaline-earth metal and amine, according to claim 1.

16. (previously presented) The process of claim 15 wherein the substrate is selected from the group consisting of a cellulose substrate, a nylon substrate, a polyester substrate, and a glass substrate.

17. (previously presented) The new phenolic compounds according to claim 1 where said halogen is selected from: chlorine, fluorine, bromine or iodine.

Add new claim 18 as follows:

18. (new) The process of claim 15 wherein the substrate is a no-woven substrate.